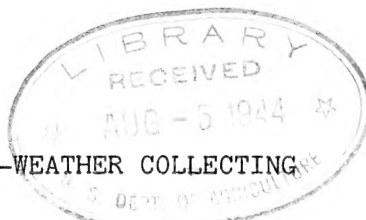


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AN APPARATUS FOR HOT-WEATHER COLLECTING

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Extremely high temperatures, such as prevail in southern Arizona during the summer months, make collection of some insects very difficult. While working with Apanteles diatraeae Mues., a larval parasite of the southwestern corn borer (Diatraea grandiosella Dyar), the writer had difficulty in keeping adults collected in cornfields alive when the temperature ranged from 100° to 112° F. in the shade, with correspondingly higher temperatures in the sun. Large numbers of the adults died before they could be returned to the insectary at Tempe. Accordingly it became very helpful to have some device that would prevent this high mortality accompanying field collections.

A. diatraeae is a small black parasite about one fourth of an inch long. The common suction collecting bottle, as shown in figure 1,B, was found satisfactory for capturing the adults, but the extremely high temperature reached within the vial played havoc with the captives. It was found that by keeping the collecting bottle constantly in the shade the mortality was somewhat reduced. The search for some means of reducing the temperature surrounding the parasites finally led to the idea of using a thermos bottle in which to place the suction bottle, as shown in figure 2.

The thermos bottle found most satisfactory for the writer's use was a pint soup thermos bottle (figure 1,A). This bottle has the wide mouth instead of the constricted neck, and thus allows room for the suction bottle to be inserted. A hole was made in the center of the cork of the large thermos bottle and the suction bottle forced into the hole so that only the top remained above the cork. Care was taken to make the hole fit the suction bottle snugly so that the cooling efficiency of the thermos bottle was not impaired. Cold water, ice water, or ice, depending on the temperature desired, was next placed in the bottle. The cork containing the collecting bottle was then placed in the mouth of the thermos bottle and it was ready for use.

The thermos bottle was considerably less efficient with the collecting bottle inserted than would normally be the case, but temperatures were found to remain sufficiently low so that collecting could be done for several hours during the hottest days. Ice water placed in the thermos bottle at the beginning of a collecting trip kept the temperature sufficiently low to preclude any difficulty from death of the adults of A. diatraeae.



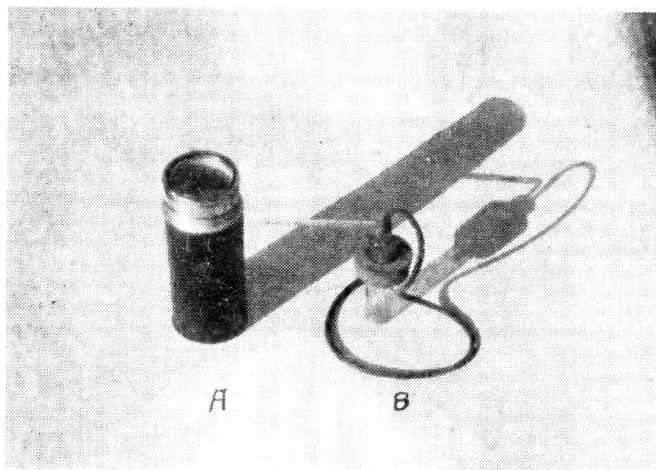


Figure 1.--A, Soup thermos bottle; B, suction bottle set in thermos bottle cork.

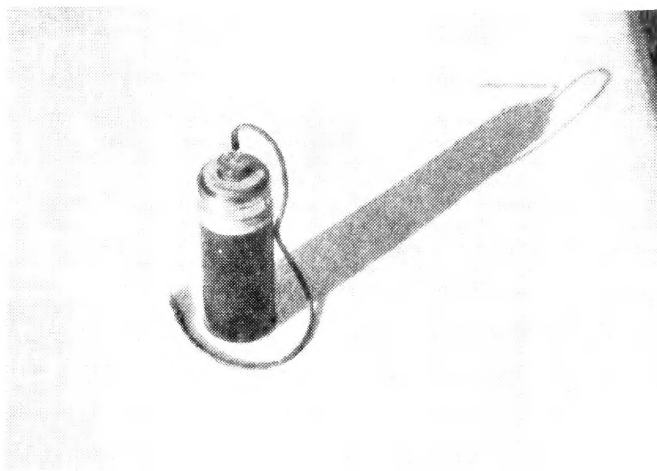
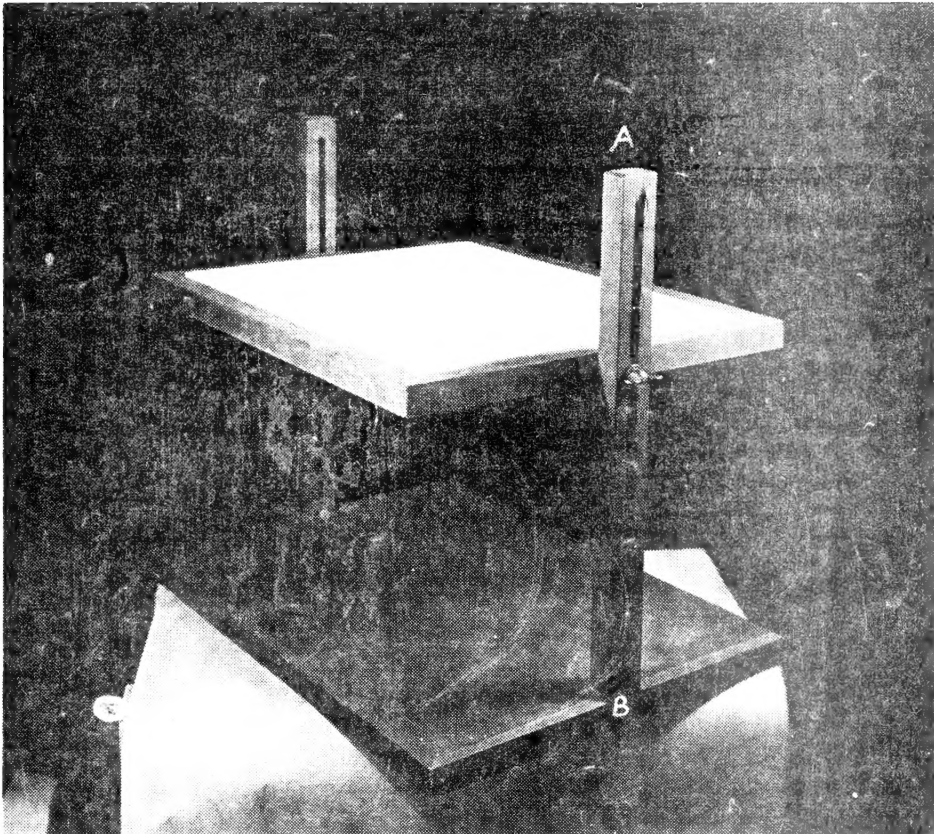


Figure 2.--Apparatus for hot-weather collecting ready for use.



Stand used for photographing objects from above

